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ON HAY-FEVER
—C—
DR ABBOTTS SMITH.

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ON HAY-FEVER,
HAY-ASTHMA,
OR
SUMMER-CATARRH.



ON

HAY-FEVER.

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OR

SUMMER-CATARRH.

BY

ABBOTTS SMITH, M.D., F.L.S.,

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PREFACE TO THE FIFTH EDITION.

THE Author's views upon the subject discussed in the following pages are so completely expressed in the prefaces to the former editions, in the work itself, and in his contributions to various medical periodicals, that it would be unnecessary now to recapitulate them; but he would take this opportunity to state that the additional experience which he has had of the affection, and the corroborative evidence which has been spontaneously rendered by numerous professional correspondents, have fully established the correctness of the principles which he advanced, although some of them were contrary to the opinions which had been previously accepted.

It is a curious fact, in connection with the subject of Hay-fever, that three distinct, erroneous opinions are held by different persons, viz:—1. That no such disorder exists; 2. That it is only of slight consequence, when it does occur; and 3. That when it does present itself, it must be looked upon as incurable.

The fallacy of each of these discrepant propositions is demonstrated in the following pages. The existence of Hay-fever is directly proved by the fact that thousands of persons are attacked by it every year; the intensity of their sufferings—in no small number of instances necessitating total cessation from the patients' ordinary avocations for several weeks or even months—is a sufficient answer to those who suppose that it is of only a slight nature; and the author has proved, as will be seen on a perusal of this work, that it is not always incurable, as some writers assert, but that, on the contrary, prompt and judicious treatment will be productive of cure in many, and relief in all, cases of Hay-Fever.

But for its appearing egotistical on my part to dilate upon this point, I could quote numerous cases of this affection, which had completely yielded to treatment, although the patients had suffered severely, and for many successive years. In fact, every season produces fuller and more conclusive evidence of the efficacy of suitable remedial measures.

22, FINSBURY SQUARE,

LONDON, E.C.

July, 1867.

PREFACE TO THE FIRST EDITION.

THE following remarks on the subject of Hay-Fever, also known as Hay-Asthma, or Summer-Catarrh, are partly reprinted from papers by the author, published in the "Medical Mirror," and containing an epitome of various communications on this disorder, made at different times to that and other professional journals.

The affection is one of great interest, both on account of the mystery which surrounds the earlier history of the disorder, its prevalence throughout the world, its peculiar symptoms, and the tenacity with which, having once shown itself in any individual, it continues its hold upon the unhappy sufferer during the whole or greater part of life. Nor do sex, age, or temperament furnish any safeguard against its attacks.

Taking all these circumstances into consideration, it is a matter for astonishment that greater efforts have not hitherto been made to elucidate the doubtful points relating to its history, causes, and treatment, and thus to obtain a more certain guide to the relief or cure of the disorder.

This apparent apathy may, in great measure, be attributed to the authoritative manner in which it has been laid down as an incontrovertible *dictum* by the few writers on the subject, that Hay-Fever is not curable. The author of the following pages has endeavoured, in different communications made at various times to the medical periodicals, to disprove the tenability of this doctrine, and increased experience has only tended to confirm him in the opinion that the affection may be invariably palliated, and not unfrequently cured, especially if the case has not, through neglect, been allowed to assume a chronic character. The predisposition to the disorder must, of course, remain inherent in the patient's constitution; but, when once the remedies suitable to his case have been ascertained, he need never in future years be at a loss to know how to ward off the annual attack as soon as the easily-recognized symptoms begin to manifest themselves.

Yet, many instances have occurred to the author's knowledge, where persons, hopeless of obtaining alleviation to their sufferings, and further dispirited by the thoughtless want of sympathy too often shown by others who are themselves fortunately free from any predisposition to this affection, and who consequently do not comprehend the misery which they endure, have voluntarily confined themselves to their houses or their rooms for many weeks

during the continuance of their annual illness, without making any effort to check its progress.

It was at one time the author's intention to have written a larger work upon this affection, embracing all the details connected with it, but the complete monograph of his friend, Dr. Phœbus, "*Der Typische Frühsommer-Katarrh*," published at Giessen in 1862, to which he had the pleasure of contributing, gives such full information concerning the history, &c., of Hay-Fever, that, for the present at any rate, the author, whose other engagements do not allow of his writing now at greater length upon the subject, gladly refers those of his readers who wish for additional particulars to Dr. Phœbus' work.

LONDON,

June, 1865.

PREFACE TO THE SECOND EDITION.

THE rapid exhaustion of the First Edition of this pamphlet in a few days, and the demand which has been made for an immediate new issue, preclude any possibility of the author's introducing, as he had intended to have done, fresh matter, with cases throwing additional light on the subject of Hay-Fever, and corroborating the views expressed in the following pages. The publication of these details must consequently be postponed until some future period, when more literary leisure offers itself.

He cannot allow this opportunity to pass without expressing his deep obligations to the numerous correspondents, both in and out of the Medical Profession, who have kindly favoured him with accounts of interesting cases of the peculiar affection on which he has written; and, he may also add, that similar contributions towards the elucidation of the various points connected with Hay-Fever will be acceptable, and duly acknowledged in a *future* edition. The causes of the disorder are, as

he has shown, widely diverse and so, also must necessarily be the treatment; so that it is only by bringing together and comparing a large number of cases that the knowledge of the affection can be placed upon a proper basis.

LONDON,

June 19th, 1865.

PREFACE TO THE THIRD EDITION.

IN the preface to the Second issue of this pamphlet, the author stated that the rapid exhaustion of the First Edition, and the immediate demand for a Second, precluded the possibility of his introducing any new matter, Similar circumstances connected with the last edition, which has been disposed of in the course of a week, almost prevent him from writing even a few words prefatory to the Third and larger issue, which is now urgently required.

He must, therefore, content himself with the renewed expression of his thanks to the medical and other correspondents, residing in different parts of the United Kingdom, who have forwarded to him interesting communications on the subjects discussed in the following pages. These communications are of additional value, because they corroborate the author's opinion that the affection is much more common than it is generally supposed to be, and also (a fact which is of primary importance), that it may always be relieved, or cured, by proper treatment, perseveringly followed out.

LONDON,

June 27th, 1865.

ON HAY-FEVER, HAY-ASTHMA, OR SUMMER-CATARRH.

THE affection to which the different names placed on the title-page of this work have been variously applied, according to the relative intensity of the febrile, bronchial, and catarrhal symptoms,* is one of much peculiar interest.

Although it is a disorder in which the symptoms are often unmistakable, and in which the sufferings of the patient are not unfrequently very severe, scarcely any references to it are to be found in any

* In some patients the febrile, in others the bronchial or pectoral, and in others the catarrhal, symptoms predominate; while in others, again, the several groups of symptoms are blended, or alternate with each other. The catarrhal, and next to them the febrile, symptoms are those most commonly present in patients under thirty-five years of age; after this period, the asthmatic symptoms are frequently the most marked.

of the older works on Medicine. Heberden, writing on the subject of Catarrh, observes: "I have known it (catarrh) to return in four or five persons annually in the months of April, May, June, and July, and last a month, with great violence." (*Commentarii de Morborum Historia et Curatione*. A posthumous work, edited by his son, Dr. W. Heberden, 1802.) The author, from whose work this solitary passage is taken, seems to be the only medical writer who noticed the occurrence of this peculiar affection, previous to the publication of Dr. Bostock's remarks on *Catarrhus Æstivus*, which appeared in the "Medico-Chirurgical Transactions," for 1828.

Dr. Bostock was himself a sufferer from Hay-fever, and was consequently greatly interested in its history and treatment. The result of his investigations showed that the disorder was one which prevailed throughout England, and the other particulars elicited by his inquiries into the subject were of considerable importance.

Since his time, although it has been recognized as a distinct complaint, little has been done towards the advancement of our knowledge of the pathology and treatment of Hay-fever until recently; excepting the publication of an interesting monograph, entitled "*Der Typische Frühsommer-Catarrh, oder das sogenannte Heufieber, Heu-Asthma*" (On the Typical Catarrh of Early Summer, or the so-called Hay-fever

or Hay-asthma), which has lately appeared (1862) from the pen of my esteemed friend, Dr. Phœbus, Professor of Medicine in the University of Giessen.*

In connection with the meagre records of Hay-fever, and, in fact, with the almost complete non-recognition of it until the last thirty or forty years, arises the question, Is Hay-fever a disorder of recent origin, or did the older physicians know of it without thinking it worthy of special notice? To the first part of this question we must naturally answer in the negative, for the causes of the affection are so common, and so universal, that it is highly improbable that the disease can have arisen only in recent times; as regards the second part of the question, it may be observed that, although the moderns are apt to pride themselves upon their superiority in Medicine, our ancestors were keenly observant of the phenomena of disease, and were unlikely to ignore the existence of an affection which recurs annually during a considerable portion (and, according to some writers, during the whole) of the patient's lifetime. So common, indeed, is hay-fever,

* As the affection is attributable to other causes besides the aroma of hay, Dr. Phœbus prefers to designate it by the name of "*Frühsummer Katarrh*," which may be abbreviated to "*Summer-Catarrh*," thus corresponding with Dr. Bostock's term of "*Catarrhus Æstivus*." Hay-fever being, however, the name by which the disorder is commonly known, that the term will be chiefly used in the following remarks.

that even animals are subject to an analogous disorder. Some instances of this nature are mentioned in Dr. Phœbus' book, and amongst these that of two dogs, which exhibited many of the prominent symptoms of hay-fever after having had their kennels strewn with freshly-cut hay. This fact occurred under my own observation, and was communicated by me to Dr. Phœbus with some other points bearing upon the subject, which he has also done me the honour to quote in his book.

As it would serve no important purpose to attempt to explain why Hay-fever is not mentioned by the older writers, it will be best to pass on to the consideration of the disorder itself. There is no doubt, however, that the disorder existed, as it frequently does now, without its real nature or cause being suspected. Many cases of supposed influenza, and other affections of the air-passages and lungs, occurring in the summer and autumn, ought, properly, to be included under this head. I have been frequently asked, "Whether Hay-fever is more common than formerly? It is difficult to answer this question with certainty, but from the numerous facts which I have collected, I am somewhat disposed towards an answer in the affirmative.

The symptoms of Hay-fever are of varied character. Dr. Phœbus arranges them into six groups; and as his classification is an useful one, I shall follow it

here. Of course, they seldom occur in the same regular manner as is detailed; sometimes those of one group, sometimes those of another group, prevail; sometimes several symptoms occur simultaneously.

The first group of symptoms are connected with the nostrils, and are similar to those of a severe catarrh, especially sneezing, which is very loud and frequent, and recurs in paroxysms of ten, twenty, or more sneezings in rapid succession, coming on at short intervals; so that the sufferer may sneeze as often as several hundred times in the course of the day. It is not at all unusual for a patient suffering from Hay-fever to have six, eight, or more attacks of sneezing in the course of the day, the number of sneezings at each fit, ranging from fifteen to fifty. One patient, a medical man, thirty-four years old, whose case has been put on record, and in whom the first attack of Hay-fever made its appearance, as early as the eighth year of his age, in describing his own case, refers to the sneezing and the struggle against it, as forming a continuous and very troublesome annoyance. When this patient passed the day without much sneezing, he usually enjoyed almost entire freedom from asthma during the night; on the contrary, when the sneezing had been more violent and frequent in the day-time, the patient was generally tormented by asthmatic paroxysms at night. The excitement of the sneezing appeared to

make the bronchi peculiarly irritable, and liable to take on spasm. I have observed a similar connection between these two symptoms in several cases which have been under my treatment. At the beginning of the attack there is no discharge, or only a slight one, of nasal mucus, but, after a few days a considerable quantity of watery limpid fluid is discharged from the nostrils. The nose very frequently becomes swollen, red, and inflamed, but the sense of smell, although occasionally diminished, is seldom completely lost. Great diversity is observed in this respect in different individuals; in one the sense of smell is but little, if at all, affected, in another it may be entirely lost, and in a third the faculty of smell may become so acute as to render it impossible for the patient to remain in a room where any flowers or other odoriferous substances have been placed.

The second group of symptoms are observed in the eyes, and the patient complains of catarrhal ophthalmia, with greatly increased lachrymal secretion. Heat and a sensation of fulness are felt, first along the edges of the lids, particularly at the inner angles, and after a time these symptoms extend over the whole of the eye-ball. Acute itching and irritation are subsequently experienced. The flow of tears is often excessive, and the conjunctival lining of the eyelids looks red and swollen, especially at

the margins, and a thick, yellowish matter is secreted by them. The eyesight is weakened, and there is more or less intolerance of light.

A patient with whom I corresponded last year, as she was too ill to come to town to consult me personally, and lived at too great a distance (her residence being in Ireland) to allow of my visiting her, stated that she could only obtain relief from the great intolerance of light by keeping perfectly quiet in a darkened room. In the cases of many sufferers, it is truly pitiable to see them blinking and shedding copious tears when they are exposed to the sun's rays. Persons suffering from Hay-fever are not long in finding out that the cooler they remain, the more tolerable is their complaint, and when I visit a patient in summer-time, without previously being told the nature of the affection for which I am required to prescribe, I can generally learn what is the matter by my being ushered into a darkened room, with all the blinds drawn. The eyelids are frequently swollen and even cedematous. When these symptoms occur, both eyes are usually affected simultaneously.

The third group of symptoms are observable in the throat, and are somewhat similar to those present in catarrhal sore throat. The pharynx is red, and swollen; there is intense itching of the

fauces and posterior part of the soft palate, and this unpleasant sensation is aggravated by the ineffectual efforts which the patient makes to relieve it by moving the tongue about the mouth. Sometimes an eruption of a number of minute inflamed points makes its appearance at the back of the mouth. There is difficulty, and occasionally also pain in deglutition; the mucous secretion is at first diminished, but is subsequently increased, and becomes very abundant. This morbid condition seldom extends to the tonsils or uvula, but they appear redder than usual and are relaxed.

The fourth group of symptoms are those connected with the head. The most prominent of these is the head-ache, sometimes only slight, but more frequently severe, and situated either at the forehead, which is hot and burning (when it may be mistaken for hemicrania), at the occiput, or over the whole of the head. The pain is very often brought on and increased by the paroxysms of sneezing, and, assuming a neuralgic character, may extend along the course of the facial nerve, or into the external auditory passage. The patient complains of a constant feeling of irritation and itching about the forehead, the nose, the chin, and the ears. Sometimes, he also suffers from giddiness, loud ringing or buzzing noises in the ears, and other symptoms of congestion of the brain, espe-

cially if the paroxysms of sneezing have been very great.

The fifth group of symptoms are situated in the whole extent of the mucous membrane of the larynx, extending also to the bronchi, and the patient is affected by bronchial catarrh, asthma, and cough, and more or less dyspnoea. In some cases the cough is comparatively insignificant, while in others it is very severe and loud, and may then be accompanied by expectoration, which is occasionally copious, and in rare instances streaked with blood. Not unfrequently a sensation of irritation is felt in the larynx, or in the trachea, and there is a feeling of weight and pressure within the chest; the patient's voice becomes muffled and hoarse, and in some instances I have observed partial loss of voice. The difficulty of breathing is occasionally very distressing, and wheezing, sibilant sounds may then be heard throughout the greater part of the lungs. The attacks of dyspnoea are more strongly marked towards evening, and continue during the whole of the night. It is in this class of cases that the patient's sufferings are the most severe. Generally, after having been asleep for one or two hours, or a longer period, the patient wakes up suddenly, gasping and struggling for breath, as if every moment would be his last; his eyes are protruded, his lips and

face become livid, and he eagerly throws open the doors and windows of his room in his ineffectual efforts to get more air, until at last he sinks down completely exhausted. When he falls asleep, his slumber is short and restless, and he is again aroused, after a brief interval of repose, by the same painful constriction across the chest, and difficulty of breathing. When the asthmatic symptoms are well-marked the dyspnceal paroxysms come on earlier at night, or in the evening, and continue until the next morning.

The regular periodicity of the asthmatic attacks in relation to the hours of sleep is remarkable. A patient who is subject to the asthmatic paroxysms three hours after retiring to rest, will experience their recurrence at 2 a.m., supposing him to have gone to bed at 11 p.m., but if he delays going to rest till a later hour, say 1 a.m., the paroxysms will very probably not come on till 4 a.m.

The sixth group, in which are comprised the general symptoms, are those of catarrhal fever, together with the disturbance of the nervous system. The pulse is not greatly increased in frequency during the day, but towards evening it becomes much accelerated, and the number of beats may amount to as many as one hundred or more in the course of a minute. Shivering and cold perspirations come on alternately after the most severe

attacks of coughing and sneezing. The patient is uncomfortable, restless, and unfit to attend to his ordinary avocation, and complains of weariness, defective memory, inability to fix his attention upon what he is doing, and heightened susceptibility to external impressions. There is a sense of general irritability, and the least noise, draughts of cold air, and various trifling inconveniences, which at other times would pass unheeded, disturb and distress the patient very much; and his sufferings are too frequently increased by the want of sympathy and apparent disbelief of the severity of his ailment, shown by persons about him, who, enjoying perfect immunity themselves, cannot form any adequate idea of the extent of the patient's sufferings. The digestive organs are not often greatly impaired; when they are, loss of appetite, furred tongue, acid dyspepsia, and constipation, or diarrhoea, or sometimes both alternating, will be observed. The urinary secretion is usually scanty; and the crisis of the disorder is often accompanied by a copious deposition of lithic acid gravel. The skin is hot and dry before the paroxysms come on, and after they have passed off, it becomes clammy, moist, and sometimes bedewed with copious perspiration. Herpes and urticaria are two forms of skin disease which occasionally make their appearance during the progress of the affection. The herpetic eruption is generally

situated about the lips ; but I have seen two cases in which the patient suffered for several days from *herpes zoster*, or shingles, situated upon the back. During the period at which the eruption was fully marked, a decided remission was experienced in the catarrhal and bronchial symptoms previously present ; the latter returned, however, towards the end of the week, as the eruption began to disappear.

A patient of mine, a lady, informs me that about a fortnight before the commencement of the annual attack of Hay-fever, an eruption of numerous red spots makes its appearance upon the body and arms. When the Hay-fever sets in, this eruption soon disappears.

The premonitory symptoms are not of long duration and they consist chiefly of a general feeling of ill-health and *malaise*, and of various uncomfortable sensations in the different organs where the affection subsequently becomes localized. The permanent symptoms usually make their appearance suddenly, and remain for some weeks, or even, in severe cases, months. The parts which are first affected are the eyes and the nose ; next, the soreness of the throat comes on ; and, as a general rule, the bronchial symptoms occur still later in the course of the disorder. The severity of the different symptoms bears some relation to the state of the temperature ; when the temperature is lowered, the

bronchial symptoms are more marked, while an increase of temperature causes their disappearance, simultaneously with which the irritation and inflammation of the mucous membrane of the eyes and nose are intensified. The symptoms connected with the nose and eyes are generally most severe in the morning, commencing as soon as the patient rises from bed; the difficulty of breathing and the fever are on the contrary, more marked towards evening. As the disorder wears off, the local symptoms are diminished, and gradually disappear, and there remain only general debility, and a feeling of ill-health, with heightened sensitiveness of both mind and body. The patient is for some time liable to a relapse, if he should happen to be again exposed to the exciting causes of the malady. Many patients suffer from a second attack, usually of a slighter degree, in the months of August and September.

In some instances this second attack is undoubtedly due to the flowering of the grass, in fields where a late crop of hay is grown; in others, it appears to be connected with the emanations given out by decomposing leaves and other vegetable matter, common at this season of the year. This latter cause is especially in operation in low-lying localities, near stagnant water.

The duration of the attack varies in different

persons. The average length of the prominent symptoms is from six to eight weeks ; but in some individuals it lasts for as long a period as three or four months. It seldom continues for a less period than four or five weeks, unless cut short by treatment. The duration of the affection is, in itself, a sufficient answer to those who look upon Hay-fever as a trifling ailment. Unless the length of time of the attack is abridged by medical means, the patient often remains for many weeks, at least, in a deplorable condition, and is incapacitated from following his ordinary occupation. Dr. Bostock, whose case has been already quoted, was compelled to retire to the sea-side, in order to obtain some alleviation to his sufferings ; and numerous instances have come to my knowledge in which the patients, including persons in all classes of society, had been prevented, annually, for years, during more or less of the summer months, from attending to their usual avocations.

During the earlier years in which a patient is subject to the attacks of Hay-fever, the length of the illness increases every year ; but at a later period of life it may gradually diminish, and in some instances recurs for only a brief period annually as old age advances. Dr. Bostock says that the disorder is more apt to increase than to decrease with the advance of life ; this rule holds true, perhaps, until

a certain period, but after this the affection not unfrequently declines gradually as regards its severity. This may be the consequence either of the patient being less likely, through inability to go much into the open air, to be exposed to the exciting causes of Hay-fever, or of his becoming subject, as old age approaches, to chronic affections of the chest, such as bronchitis, and asthma, which take the place of, or mask, the original and special disorder. The tendency to suffer from the disorder is never completely lost.

I have now under my care a gentleman, eighty-three years of age, who has suffered from Hay-fever for more than fifty years. The predominant symptoms are those of asthma, from which the patient now suffers throughout the whole year; in the months of June, July, and August, the asthma is more troublesome than at other seasons, while evidence is given of its original nature by the sneezing, running at the nose, and feverishness during those months.

Hay-fever is most commonly a disease of adult life; but it may occur at all ages. I have seen young children suffering from it, and the author already named says that it commenced in him at the age of eight years.

During the present year (1867) I have met an instance of summer-catarrh in a child only nine

months old. This is the youngest person I have known suffering from this affection; but it should be mentioned that the father is himself a martyr to Hay-fever, and that two of his sisters, an uncle, and other near relatives are affected by it, showing the existence in the family of a strong predisposition to the disorder.

The age at which it makes its first appearance varies considerably—generally between the tenth and thirtieth year of life—although it may occur at a still earlier period, as in Dr. Bostock's case, and the other instances to which I have referred as having come under my own observation. No case has been put on record in which the first attack occurred after the patient had attained the fortieth year of his age.

In illustration of the proverb, "there is no rule without an exception," I may mention that a gentleman who has been under my care during the present summer (1867) states that he never experienced an attack of Hay-fever until he was forty-three years of age. It should be added, however, that until three years before he resided in South America. He informs me that when he was a boy, he suffered occasionally from bleeding at the nose, which I have frequently found to be the case with young persons predisposed to summer-catarrh. His removal from England at an early age, and his subsequent long *residence abroad* in a part where he was not exposed

to the chief exciting cause in his case, probably prevented the manifestation of the disorder until after the ordinary period for its appearance.

Many individuals suffer from this affection for years, and, in fact, may continue to do so during their whole lifetime without being aware of the nature of the ailment from which they suffer. Persons find that, after going into fields where grass is ripening, or where hay is being made, they suffer from severe attacks of sneezing, watery discharges from the eyes, and other annoying symptoms; but they do not, in any direct manner, connect these symptoms with the actual cause.

Cases have come within my knowledge in which persons have suffered from Hay-fever for ten or more years without suspecting the real nature of their affection.

A patient of mine having taken a house at a distance from London, was in the habit of making a near cut through some meadows on his way to and from the railway station, every morning and evening. This he continued to do with impunity during the earlier months of the year; but, as the summer came on, he found himself often troubled with sneezing fits, occasional head-ache, and lassitude, which he attributed to the heat, and to the weariness produced by close application to business. He consulted me about the middle of June, on account

of the debility from which he supposed that he was simply suffering. Noticing the lachrymation and frequent sneezing, I inquired about the hay crops in the neighbourhood of his country-house, and in the course of conversation I soon ascertained what his ailment was attributable to. He was rather sceptical when I told him that his "weakness" would disappear speedily if he would adopt a different and more circuitous route to the railway station, going along the turnpike-road instead of through the meadows, and if he would follow a course of alterative and aperient medicine which I prescribed for him. He adopted my advice, however, and the regimen and treatment which I prescribed, and in about a fortnight had completely recovered his accustomed good state of health. A relapse happened later in the year, but yielded in a few days to the same treatment as that previously successful.

Another instance of a similar kind occurs to my recollection. Some years since, in the month of June, I visited a patient at a school in Surrey. After I had prescribed for the case, my opinion was asked as to the probability of measles occurring in one of the other pupils, who had been suffering for two days from running at the eyes and nose, and other symptoms analogous to those observable before the eruption of measles presents itself. The weather was hot and close, and through the open

window of the parlour, where the lad was laying on the couch, came an unmistakable aroma of newly-made hay. Struck by the coincidence of the boy's illness and of the hay-making in the immediate vicinity, I made inquiry and learned that the grass in the field next the play-ground had been cut three days previously, and that the boys had been allowed to assist in the hay-making. This lad became so ill after a few hours that he was taken into the house, and the head master of the school, fearing an outbreak of measles among the boys, had intended to send the patient to his home, but waited for my advice in the matter. I was able to assure him that he need be under no apprehension of an epidemic. The lad was, according to my directions, removed into a room on the other side of the house, as far as possible, from the exciting cause of the affection. I treated the case afterwards by correspondence, and the patient recovered in ten days.

This and the preceding case furnish good examples of the advantages derivable from the employment of prompt measures at the commencement of an attack of Hay-fever. When the affection has lasted for a considerable period it is by so much the more difficult of cure.

One peculiar characteristic of Hay-fever is its periodical return, which happens almost invariably.

towards the end of May, or the beginning of June, in every succeeding year after it has made its first appearance,—the period of recurrence bearing a direct relation to the first hot days in summer.

The first heats of summer are always a powerful exciting cause of summer-catarrh. In the present year (1867) the hot weather set in suddenly, and simultaneously Hay-fever made its first appearance in various localities. Several of my patients living in different parts of England, experienced the commencement of their annual attack, on a particular Friday and Saturday early in June; one gentleman residing in the midland counties, informed me that the affection began on the same day in himself as in his brother, then staying at Southampton.

Cases have come under my notice, in which the symptoms have broken out with sudden violence during the sultry, close weather which sometimes occurs early in May. In the south of England Hay-fever begins to manifest itself at the end of May, in the northern counties it is several weeks later, and in Scotland it is somewhat later still.

When the patient is affected the second time in the same year, the months of August and September are the most common period of its attacks. Frequently, about this period of the year a second crop of grass is obtained, so that patients resident

in the country are again exposed to two exciting causes, viz., the flowering of the grass, and the conversion of the grass into hay.

Among the causes of Hay-fever, a peculiar tendency to suffer from it may be noted as one of the principal. Although a very great number of persons are exposed to the various predisposing and exciting causes which give rise to this disorder, only a limited proportion of the population suffers from it; and in those who are attacked by it, the affection is so severe, and, if allowed to progress unchecked for too long, so difficult to treat successfully, that this singularity can only be accounted for by the assumption that it is often dependent on a specially marked predisposition, which is inherent in the individual, and is connected with the nervous and mucous systems.

In considering this point, it must be borne in mind that many persons are probably victims to Hay-fever, without knowing the real nature of their disorder. One person imagines that he is suffering from an attack of common influenza; another thinks that he is merely "out of sorts;" and a third fancies that his ailment is ordinary asthma or bronchitis: so that they may go on suffering for many years without knowing the cause, or deriving relief from treatment.

It has been commonly put forward by writers

on medicine, in their brief allusions to Hay-fever, that women are more subject to this affection than men ; the contrary is, however, the fact, for males suffer from it, according to my experience, much more frequently than females do. My conclusions on this point are supported by a tabular statement in Dr. Phœbus' book of cases collected from various sources, which actually gives a proportion of two men to every woman affected by Hay-fever. The cases which have come under my knowledge during a number of years present a still larger proportion of males, as compared with females, suffering from this affection.

The majority of the patients whose cases have been tabulated by this author, were persons of nervous or sanguineous temperament ; but where the predisposition to the disorder exists, persons of any diathesis may be affected. I have often been surprised at observing the otherwise healthy condition of persons suffering from Hay-fever. Many of my patients tell me that during ten months of the year they enjoy robust health, and that it is only during the existence of Hay-fever that they are at all troubled by illness.

Another point worthy of notice, is the hereditary tendency to suffer from the disease. Many years since, I knew a medical practitioner in Warwickshire, who was affected yearly by Hay-fever ; and

I have been lately informed that his surviving children, now grown-up, are equally subject to its attacks. Additional cases of hereditary predisposition have come to my knowledge, both in my own practice, and that of other physicians.

I have already referred to a case in which a gentleman, his child, his two sisters, his uncle, and other relatives, are affected by Hay-fever, and I could readily give additional examples of the hereditary routine of the disorder; indeed, in the majority of the cases of Hay-fever, I find that the parents or other near relatives of the patients have suffered from Hay-fever, asthma, or gout.

In connection with the family history of patients suffering from Hay-fever, it is interesting to note the close relation which evidently exists between this disorder, and asthma, gout, and intermittent fever. In nine cases out of ten which come under my observation, either the parents or other very near relatives suffer, or have suffered from Hay-fever, ordinary asthma, or gout.

In the family of an asthmatic or gouty person, one member may be affected by asthma or gout, while another may suffer from summer-catarrh. Amongst my notes of cases of summer-catarrh, I have some details of a family consisting of two sons and two daughters, all of whom suffer from this affection. The father is a gouty subject, and

the mother is asthmatic; other members of their respective families have suffered from gout and asthma. Intermittent fever, or ague, also bears a close relation to Hay-fever, rendered more remarkable by the periodicity shown in each of these disorders.

Dr. Bostock believed that Hay-fever was a disorder confined exclusively to the upper and middle classes, and the researches of Dr. Phœbus have led him, in some measure, to the same opinion.

One circumstance must, however, be considered before arriving at a positive conclusion on this point—viz., that the poor, being less able to spare either time or money than persons who are better off, are in a great measure prevented from seeking medical aid, until they are almost incapacitated for work, and consequently when suffering from an affection which, like Hay-fever, runs a definite course, and then ceases, are less likely to come under medical observation than richer individuals. I have certainly seen many well-marked cases of Hay-fever amongst the poorer classes, one of which I shall presently detail. Dr. T. W. King, writing on this question in the *London Medical Gazette* for 1843, says “I have known of its occurrence in masked and aggravated forms, which I attribute to difficulties and exposures of a severer kind to which the poor are subject. I make very little doubt also, that these

same catarrhal disturbances in summer are of a more frequent occurrence under a less distinct form; namely, that of aggravation of affections which in some degree the sufferer considers as habitual and almost natural to him."

Hay-fever has been more frequently observed in England than in any other country; but the apparent greater prevalence of the affection in this country, as compared with others, may, in some measure, be probably due to the attention which has been directed to it by the writings of Dr. Bostock, and others. From different published accounts, it is evident that the disorder is not at all uncommon in Germany, Belgium, France, and Switzerland; and cases have also been recorded of Hay-fever occurring in Italy, Austria, Russia, Denmark, and other European countries.

Mr. Simpson, quoted by Dr. Phœbus, says that his eldest son, who is a sufferer from Hay-fever, "has travelled in various parts of Africa; but, at the proper season, has been more or less affected by the malady. He has had it in Greece, Turkey, Algeria, Norway, and Lapland, as well as in England and Scotland."

A patient of mine suffered severely from Hay-fever every summer, during a residence of ten years in New Zealand, where he tells me the affection is very common; I have also had under my notice

persons who have suffered in Australia, India, and other distant colonies.

It is known to attack many persons in America; and Dr. Dunglison, of Philadelphia, in his "Practice of Medicine," bears testimony to the fact that "summer bronchitis," as he terms this affection, is as prevalent in the United States as it is in Europe. I saw an undoubted instance of this affection in a gentleman, a native of one of the States, when I was in New York some years since, and he told me of several other sufferers, whom he was acquainted with.

An analogous affection attributed to the odour of the roses when in bloom, is by no means uncommon in some parts of the United States, where rose-trees are cultivated in large numbers. This disorder is known by the names of rose-cold, rose-catarrh, or rose-fever. It has also been observed in England. Not long ago, I received from one of my patients a graphically-written description of the sufferings which he always endured upon entering, during the summer season, any room in which flowers had been kept for some time, with the windows and doors closed. In other cases, individuals liable to summer-catarrh find it impossible to remain in heated rooms where numerous flowers are placed, as at a dinner party, or in rooms opening into conservatories containing flowering plants. Many people will, probably, be

disposed to attribute the feelings of the patients in such cases to mere whim, or fancy; but, after all, there is no reason why we should disbelieve the statements of persons of education and position, who have no inducement to practise deception, and whose uncomfortable, and often distressing symptoms are palpable to any intelligent observer who may happen to witness them. The sense of smell, like the other faculties, is liable to singular modification or intensification (so to speak) at times. Every one is aware how painfully acute the senses, especially those of hearing and seeing, become during exhausting illnesses and in certain nervous conditions; and the faculty of smelling is singularly subject to variation both in disease and health. Numerous well authenticated cases have been recorded of individuals, evidently in the enjoyment of good health, who have been suddenly affected by the smell of some flower or animal. Some persons cannot bear the smell of particular flowers, such as, for instance, roses and geraniums; and an anecdote is told of a distinguished general who, although he had gone through many campaigns with great bravery, always turned pale and fainted at the sudden smell of roses, if held before him. Others, again, are visibly disturbed and annoyed by the smell of different animals. [Dr. Carpenter relates, in his "Principles of Human Physiology," the case of a blind gentle-

man who could always tell, by his sense of smell, whenever a cat came near him.

Hay-fever is more frequently observed in rural districts than in towns, and in the suburbs than in the central parts of large cities; and it is also more common in localities where grass is chiefly grown than those in which wheat crops are principally cultivated, or which are situated near to the sea-coast.

Although Hay-fever is generally observed in rural districts, it does not follow, as some writers have advanced, that residents in large towns are altogether exempt from its attacks. I have seen the affection on many occasions in persons living in London; in Portland-place, Grosvenor-square, Bond-street, Kensington, Thames Street, City Road, Houndsditch, Hackney, and Pimlico, for example.

The following case, originally published in a paper of mine on Hay-fever in the "Medical Times" for 1863, furnishes a good illustration of the fact that persons susceptible of its attacks do not escape, even in London.

T. G—, a young man of sound constitution, and usually enjoying good health, presented himself amongst the out-patients at the Metropolitan Free Hospital in June, 1863, in consequence of his suffering from severe catarrhal symptoms, which were accompanied by intense frontal pain, headache, giddiness, lassitude, and prostration of strength. The patient

had a harsh, dry cough, and he complained of a disagreeable sensation of itching, and irritation in the fauces and trachea. The pulse was weak and rapid, averaging from eighty five to ninety-five beats in a minute; the tongue was dry, and partially covered with a white fur; the urinary secretion was of a high colour, and very scanty, and the bowels were obstinately confined. Learning that the patient was in the employ of a wholesale hay-salesman, I suspected the real nature of the case; and, on further inquiry, I elicited the important facts that he lived in a house situated in a yard, where large quantities of hay were stored; and the attack of illness could be traced back to a period when some loads of fresh hay had been brought into the yard from the country, and that the patient's wife was suffering from symptoms somewhat similar to, although not so intense, as his own. I directed the patient to reside temporarily at a distance from the hay-stores, to take a saline aperient every morning, and lobelia in full doses, three or four times a day; subsequently the mixture was changed for one containing quinine, with dilute sulphuric acid. The man soon recovered, and the same treatment proved equally efficacious in the case of his wife, who also came under my care as an out-patient.

Mr. Cheyne has recorded in the "Medical Gazette" for 1842, a well-marked case of Hay-fever,

in which the wife of a stable-keeper, living near Regent Street, whose lofts were filled with hay recently brought in, and having an unusually powerful odour, received no relief from ordinary remedies, but was speedily relieved from all the distressing symptoms by removal to lodgings at a distance.

Another case of a similar character has been described by me in a paper on the subject of Hay-fever, published in the *British Medical Journal* for 1865. The patient, who came under my care at the Metropolitan Free Hospital, resided in Houndsditch—no very likely locality, certainly, for the production of the disorder by the aroma of hay; but, upon inquiry, I cleared up the case satisfactorily, by ascertaining that the patient worked in a room close to a livery-stable, and that, with a regard for ventilation, very unusual amongst the residents in that part of London, he was accustomed to keep the window open, so as to admit air into his room. His illness which, when he first applied at the hospital, had lasted six days, and commenced on the morning after some very strong-smelling hay had been brought into the stable-lofts.

The exciting causes of Hay-fever include the following:—

The flowering of grasses, rye, and wheat. By

some the fresh plant is not so often considered to be the cause of the disorder as the hay into which the ripe grass is made. Hence, the name of Hay-fever or Hay-asthma. In those, however, who are affected through the influence of hay or grass, the disorder generally manifests itself at the beginning of June, when the grass begins to come into bloom ; or earlier still if the weather be warm and the growth of the grass more rapid than ordinary. The species of grass which are considered to be most productive of Hay-fever are the *Anthoxanthum odoratum* (sweet-scented vernal grass), the *Holcus odoratus* (sweet-scented sort grass), and the *Lolium perenne* (rye grass). The *Anthoxanthum odoratum* commences to blossom at the end of May or in the earlier part of June, according to the state of the weather ; and it continues to flower, although less frequently, in the succeeding months of July and August. In connection with this point it is interesting to remark that the peculiar aroma of the grass at the period of flowering is principally due to the two first-named species of the Graminaceæ.

M. Vogel ascertained many years since that benzoic acid exists in both of these grasses, and that their odour is chiefly owing to its presence. This fact is important, when considered in con-

nection with the circumstance, obligingly communicated to me by Messrs. Davy, MacMurdo and Co., manufacturing chemists, and since corroborated by other practical authorities, that the inhalation of the vapour which incidentally escapes during the process of sublimation of benzoic acid causes considerable irritation of the throat, and violent paroxysms of sneezing and coughing. The question here suggests itself whether Hay-fever may not, in some degree, especially when it arises in persons who are affected by the aroma of grass or hay, be attributed to the irritating effects of the benzoic acid which is liberated from the *Anthoxanthum odoratum* and the *Holcus odoratus* by the agency of the summer heat? In support of this suggestion, it may be observed that the attacks of Hay-fever are almost invariably worse during the continuance of hot, dry weather, while they generally assume a milder character in wet weather, or when the temperature is much reduced; at which periods the sublimation of the benzoic acid contained in the flowers would be less than in hot weather.

This exacerbation of the affection in very warm weather also points to local vascular congestion of the naso-pulmonary mucous membrane as one of the exciting causes of Hay-fever.

Other odours, besides that of grass and hay, have

been known to bring on the affection in persons who are predisposed to it.

In America its attacks are so frequently observed at the time when the rose-trees are in bloom about the months of June and July, that the names of rose-catarrh and rose-cold are commonly used in speaking of the disorder. It has also been noticed in this country, arising from apparently the same cause.

In India it is said that symptoms similar to those of Hay-fever occur sometimes among Europeans, in the months of February and March, at which season the mango tree (*Mangifera*), and the Neem (*Melia azadirachta*) are in blossom.

Beans, when in bloom, nettles, lilac, elder-trees, and other flowering plants and shrubs, have been known occasionally to produce an analogous affection in persons who are predisposed to it; and also the smell of various kinds of sea-weed when exposed to the sun and undergoing decomposition.

As bearing upon the fact that the smell of decomposing vegetable matter is sometimes a cause of this affection, I may mention the case of a gentleman who favoured me last year with a letter containing a detailed account of his symptoms, and who stated that the annual attack came on once immediately after he had been engaged in changing

the water in a vase in which some flowers had been standing for several days.*

* The communication kindly sent to me by this gentleman abounds in so many points of interest that I regret that his request that I should not publish his name prevents my giving it *in extenso*. I venture however, to make use of some portions of his letter.

"I cannot accurately discover when I was first taken ill with this affection, but I recollect that about ten years back, I was in the habit of remarking that '*I seldom took cold in the winter, only in summer-time.*' At this period I considered it to be a cold, and treated it accordingly. . . . Some time after this, some one suggested that my complaint was *Hay-fever*, which I had never before heard of; and I then became aware of my disease. I have consulted various medical men, but all have looked upon Hay-fever as a sort of hallucination on my part. The most curious thing with my symptoms is, that the mowing of grass near me immediately brings them on. For three years when I was a Master at ——— College, I was surrounded by meadows, and moreover, my school-room was on the ground floor opening on to the quadrangle. Here, daily, during the summer the gardener was engaged in mowing the grass. Even when I was unaware of his presence, and felt completely well, the fit would all at once come on, and I found that he had begun mowing. The effect has been so bad on me that I have had to go home and go to bed, my jaws aching, my eyes smarting, and every sign of a painful influenza being present. . . One year while there, I suffered at nights from severe asthma, often jumping up in bed half-choked. . . . This year in the middle of April, the periodical attack rose from a strange cause. I was occupied in adding fresh water to some flowers in a vase; the water had been standing for several

The presence of cut flowers in a room where a person predisposed to Hay-fever is sitting, is sometimes sufficient to provoke an attack of the affection. Some of my patients are compelled, on this account to refrain from attending dinner-parties in summer, when it is customary to ornament the table with flowers. A similar effect is produced in others by sitting in a room which communicates by open doors or windows with a conservatory containing flowers or shrubs.

In some parts of England and on the Continent, a peculiar affection exists, similar in many of its symptoms to Hay-fever, apparently connected with the presence of larch trees. After passing through or near to a wood in which there are many larch trees, the patient's face becomes swollen, red, and painful, his eyes are blood-shot, and a thin mucopurulent fluid is discharged from the eyes and nose. These phenomena are attributed by some to a

days, and was foul, and as I poured it away my annual visitor came on. . . . I have known some curious symptoms in others. A relative by marriage, a young farmer residing near the coast, would frequently be attacked in the hay-field; he would then completely lose his sight, and had to be led by his men to the sea-shore, where he would sit down for half-an-hour, when he would recover and be able to go on again. . . . A medical gentleman Dr. T——, of C——, used to suffer from Hay-fever, and was confined for weeks to his bed, and unable to attend to his patients. . . .

minute fungus growing upon the bark, and by others to the larvæ of the *Phalæna bombyx*, which are often found in great numbers upon larch trees, and when handled, give rise to swelling of the hands and face, and considerable irritation of the eyes and nose.

The treatment of larch-fever may be conducted on the same principles as that of Hay-fever, attention being also directed to the local swelling and tenderness.

The odour, or, perhaps more correctly speaking, the mechanical irritation to the mucous membrane of the nose and throat, arising from powdered ipecacuanha and some other substances, minutely subdivided, so that the particles are very small and penetrating, will also induce the disorder in persons who are susceptible to its attacks. Dr. Watson mentions in his "Lectures on the Practice of Medicine," the case of a man engaged in the laboratory of St. Bartholomew's Hospital, who was always seized with such violent catarrhal symptoms whenever ipecacuanha was being ground to powder as to compel him to leave the room in which the process of grinding was conducted. Since the publication of the first edition of this work, a similar case has come to my knowledge, viz., that of the wife of a medical practitioner; this lady *always* suffered from catarrh, sneezing, and other

symptoms of the same class, whenever ipecacuanha was being pulverized in a mortar in the surgery, although that room was situated in a distant part of the house.

As has already been stated, the first heats of summer often play an important part in bringing on the affection.

Dr. Phœbus considers, indeed, that it is chiefly due to this cause. The agency of increased (especially suddenly increased) temperature in producing the affection may be accounted for in various ways. The heat having a tendency to lower the tone of the sympathetic and general nervous system, the patient is weakened and rendered more susceptible to the effects of other exciting causes; the various secretory and excretory functions become disturbed and irregular from the same reason; while the heat also sets free the odoriferous particles from the grass, flowers, &c., and increases the quantity of dust and other irritant matters floating in the atmosphere. There are few things which will more readily excite an attack of the affection than the heat and dust of railway travelling in summer time. Dr. Phœbus also attributes some weight to the influence of strong light in the production of this disorder, as the attacks of summer-catarrh are always prevalent during the longest days in the year, when the solar rays are most powerful, and

ozone is developed in the greatest quantity. In support of this theory he quotes one case, that of a professor of chemistry, who actually complained of a continual unpleasant taste, similar to that of ozone.

Each of the principal causes just enumerated has, doubtless, much to do with the causation of summer-catarrh; and, as in all other affections, sometimes one, sometimes another, cause may preponderate.

The majority of sufferers from this disorder attribute their illness to the presence of ripe grass or hay in their immediate neighbourhood.

A case has been recorded (*vide* Dr. Watson's "Lectures,") of a lady in whom an attack of Hay-fever was brought on by the approach of her children, who had been in a hay-field; and, at another time, a paroxysm was induced, some weeks after the hay-harvest had been finished, upon the children joining her, at tea, after playing in a barn in which that season's hay been placed.

The same lady was in the habit of removing to Harwich, or some other part of the coast, during the hay-season in order to avoid what was in her case the chief exciting cause of the malady. On one occasion while walking on the shore at Harwich, she was suddenly attacked by all the symptoms of hay-fever, much to her surprise, as she was not aware of the existence of any grass in the neighbourhood; on the following day she discovered that

hay-making was going on near the top of the cliff at the time when she was passing under it.

Another attack was produced in the same patient under still more singular circumstances. She was at Cromer, and had quite recovered from her annual illness, the hay-making in that neighbourhood having been completed, when she was suddenly seized with catarrhal and other symptoms, and on going into her bed room she ascertained that a large stack of hay, which had been brought from a field five miles distant, was being put up in a yard near her residence.

It would be easy to introduce numerous other cases of Hay-fever dependant upon the emanations from hay, in addition to those already detailed, but I will content myself with giving a few only of these.

The first occurred in the practice of Mr. James Bird, and as he has described it in a communication to the *British Medical Journal* (July 22nd, 1865), which he wrote in support of my views on Hay-fever, I take the liberty of quoting his account of it. "I attended," he writes, "in the months of June, 1845, 1846, and 1847, an old Cornish baronet, the late Sir W. C——, who upon each of these several occasions suffered severely for a week or fortnight from a sharp attack of Hay-fever. He had repeatedly been invalided in a similar way in former

years; and, as his attacks in each instance were invariably preceded by recent exposure to the vapour of newly-made hay, or to the smell of a bean field when the plants were in full bloom, he seemed thoroughly aware of the character of his indisposition; and, without a moment's hesitation, called it 'Hay-fever.' The threefold annual return of his disorder under my own immediate observation, and the conviction that every attack was clearly traceable to a distinct individual influence, left no doubt whatever on his mind, or on my own mind, that the slightest exposure in hot dry weather to the influence of the vapour of newly-made hay, or to the aroma emanating from bean plants in blossom, was in a few hours followed by a sudden and severe attack of sneezing, copious defluxion from the eyes and nose, fever, and all the other symptoms of an influenza cold.

The symptoms of the baronet alluded to, in each of the attacks for which I attended him, were as nearly alike as possible. He was upon each occasion in good health, and following his usual occupation or amusement up to the period of exposure and of indisposition. On one occasion he went down to Pangbourne from London for a day's fishing. In the evening of the same day, having been in some meadows where hay-making was going on, he became suddenly oppressed and feverish,

short breathed, with sneezing, running at the nose, increased lachrymal secretion, pain over the frontal sinuses, considerable oedema of the eyelids, and swelling of the nose. There was not much cough, and but little expectoration; but the sneezing was almost incessant, twenty or thirty times in succession, lasting for an hour or more with very brief intervals, and leaving him, after a copious defluxion, with severe headache, considerable weakness, and otherwise feeling very unwell.

A second attack occurred after a drive through Willesden and on towards Harrow on a fine evening after a very hot day during the hay-making season in the month of June. Having been quite well previously, he heedlessly took this drive, and was rewarded by an attack exactly similar to the one of the previous year. The third that came under my notice in this gentleman's case followed in the course of a few hours, after a visit to Lord's Cricket ground, where he remained a couple of hours or so, enjoying, though without joining in, a match that was then going on. He was attacked in the evening with precisely similar symptoms to those of the preceding year; and he was unfit to attend to his ordinary avocations for a week or ten days, or as nearly as possible for the same time that he was invalided in the previous years. Hay-making, it

may be remarked, was at this time in full operation in the fields on each side of the Finchley Road.

I shall briefly give two other cases which occurred in my own practice last year, and are of interest, not only as showing that they were induced by the emanations from newly-made hay, but also as demonstrating the certainty with which the affection may be sometimes traced to this common cause.

On the 14th of June, two years back, a Scotch gentleman called upon me and requested me to give him a prescription which he might use for the purpose of warding off, or diminishing the intensity of the annually recurrent attack of Hay-fever, to which he had for many years been subject. He informed me that he resided in the neighbourhood of Edinburgh, and that he always began to suffer from the affection in July (Hay-fever, as has previously been stated, making its appearance rather later in Scotland than in England), but that, having during the previous few weeks, travelled through various English counties, he had experienced some of the most marked symptoms on the day before he came to consult me. These symptoms came on suddenly as he was travelling on the London and North Western line, a few miles south of Coventry,

and continued to trouble him until he got to town, when they gradually left him. The suddenness of the attack, and the transient character of the symptoms, afforded good presumptive evidence of their having arisen from some local cause, which I thought was most probably hay-making near the railway.

Two days afterwards I was consulted by a gentleman who had come from Staffordshire to see me. In giving an account of his case he mentioned that in travelling up to town he had suddenly suffered from great difficulty of breathing, and a feeling of suffocation, which harassed him during the remainder of his journey to London. On further inquiry I ascertained that the sudden exacerbation of his disorder occurred within a few miles of Coventry, at the same part of the line as that referred to in the previous case.

Towards the end of the week in which these two gentlemen consulted me, I had occasion to travel by the London and North Western Railway, and noticed that the embankments on both sides of the line, for greater part of the distance between Weedon and Coventry had been recently mown, and that some of the hay still remained uncarried. This afforded at once a clue to the cause of the indisposition of my patients, each of whom com-

plained of a sudden attack of Hay-fever when travelling between Coventry and Weedon.*

* As I did not hear subsequently from the patient resident in Scotland, and could not write to make inquiries through having lost his address, I am unable to state whether good results followed the use of the medicine which I prescribed, to be taken at the commencement of his annual illness, with the view of cutting the disorder short immediately it began to show itself. The probability however is in favour of its having fortunately prevented the persistence of the symptoms, as he expressed his intention of consulting me again by letter, if the attack should assume a severe and permanent character.

The other case I was able to follow up to a cure, although the symptoms were of a very serious nature. This gentleman informed me that for more than twelve years past he had suffered from an annual attack of Hay-fever, coming on about the middle of June, and usually lasting from six to eight weeks, during which time he was almost totally unfitted for business.

In the hope of obtaining relief he had placed himself under various medical men, but without any alleviation of the disorder, or diminution of the length of the yearly attack.

The symptoms were similar to those of asthma, viz., great pain in the chest, difficulty of breathing, a feeling of tightness about the nose and sides of the head, constriction of the throat, constant, troublesome cough,, without free expectoration. The symptoms were always worse at night, when the patient would start up from his sleep, gasping and struggling for breath, and fearing immediate suffocation; towards morning the symptoms abated, the expectoration become more free, profuse perspiration broke out all over the body, and the patient fell asleep, completely exhausted by *his* sufferings. At first the affection seemed to yield only

The smell of hay is sufficient to produce catarrh, and inflammation of the eyes and nose, at *any* season of the year, in persons suffering from a strong predisposition to Hay-fever. I have known a severe attack brought on in winter, and at other periods when the affection would be unexpected, by passing near a newly-cut stack of hay, entering a stable where hay had just been placed in the racks, or unpacking cases and hampers containing musty, close-smelling hay. Within a few weeks of last Christmas-day, I had under my observation two undoubted cases of Hay-fever; one, occurring in a lady, through her unpacking some boxes of china,

slightly to treatment, but within two weeks from the period at which he had placed himself under my care he found himself nearly well, as shown by the following letter which I received from him on the 7th of July:—"I am glad to say that I have derived benefit from the medicine which you last prescribed for me; and, although I am not entirely free from the wheezing and cough, I think that I shall be in a day or two. I have not much to complain of now, except a feeling of debility and some loss of appetite. With a tonic, I expect soon to be right again." From this date, July 7th, the patient made a rapid recovery, and in a short time was able to do without medicine. I have described this case rather fully, as it furnishes a proof of the fallacy of the opinion advanced by many, that Hay-fever is not amenable to treatment. This case was one of the worst that I have known, besides which the patient had suffered from Hay-fever for many consecutive years; yet it yielded to treatment in the course of a fortnight.

wrapped in hay, which had been forwarded from the continent; the other, in a gentleman, an amateur farmer, who had amused himself by chopping hay into small pieces, with a cutting machine, and afterwards feeding some favourite cows with the chopped hay, remaining near the racks while they eat it.

Dr. Bostock thought that his case was not, in any degree, dependent upon the effluvia from hay, and attributed his annual attack to physical fatigue and exposure to the sun's rays.

For many years he was in the habit of retiring during the greater part of the summer season to a house situated on the cliff at Ramsgate.

There was very little grass within a considerable distance of his house, and on many of the hottest days the wind blew steadily from the south-east, so that the nearest land to the windward of his residence was the French coast, on the opposite side of the channel; yet, during this time, whenever he relaxed his usual plan of discipline, viz., abstinence from bodily exercise, and avoidance of exposure to the solar rays, and placed himself for any length of time under the influence of the direct heat of the sun, or quickened the circulation by walking or any other kind of exercise, the symptoms at once recurred in full force.

There are, doubtless, many cases of a similar

character to Dr. Bostock's. One such came to my knowledge soon after the publication of the first edition of this work, and, as it is always interesting to have the patient's own account of his disorder, especially when he is a man of education and superior intelligence, I may give the following extracts from his letter :—

"I am twenty-nine years of age, and can recollect certainly for fifteen years being annually attacked by this malady (summer-catarrh.) I have resided for the last seven years by the sea-side, and my case quite agrees with that of Dr. Bostock in the fact of its being in no way consequent or dependent upon the smell of hay, but merely on the approach of really hot weather. This year (1865) it first came on whilst I was on the sea, yachting with a friend. It was a hot day in May, with wind from the S.W., the nearest land to windward being nine miles distant. I felt myself, after some exertion in assisting to hoist the sails, suddenly seized with sneezing, and I have had it ever since." (The date of this correspondent's letter was June 13th.) "I dare take no exercise except very slow walking, or I become a most pitiable object. My eyes are inflamed to a fearful extent, the discharge from the nose is immense, the perspiration oozes from every pore of my skin, and I am often obliged to change my linen. I seldom get asthma; if I do,

it does not last longer than a night or two. . . . Another peculiarity is a breaking out on my upper lip, which I attribute to the heat or virulence of the nasal discharge." This gentleman experienced much relief from bitter tonics, saline aperients, and the use of coloured-glass spectacles.

In another similar case, the patient informed me, that he had suffered for many years from annually recurring attacks of summer-catarrh, which occurred about the same period (synchronously with the first great heat) of summer, no matter where he might happen to be at that season; and that some years since, he was seized with unmistakeable and severe symptoms on board ship, several hundred miles from land.

I may also mention another case, in which it is probable that the immediate cause was great solar heat.

About the middle of last June, a gentleman went to my publishers, at the West End, to purchase a copy of this work, and, in the course of conversation, stated that he was a victim to Hay-fever, but thought he had escaped it that year by making his residence temporarily in town. Subsequently he called to communicate the singular fact that, in walking home through Piccadilly to his house, not more than a quarter of a mile *distant*, he felt the symptoms of the disorder

coming on; and, by the time that he reached home, they had become so severe as to compel him to remain within the house for several days. The day on which he suffered this attack was very hot and close, and some of the streets along which he passed were very dusty. The intense heat, combined with the irritation of the mucous membrane of the nose and throat, produced by the penetrating particles of dust, sufficiently accounted for the sudden appearance of the affection.

That the temperature has certainly a great influence over the severity or mildness of the attacks of Hay-fever or summer-catarrh, cannot be doubted. In very hot, dry weather, the patient's sufferings are invariably augmented, while a reduction of the temperature, or a heavy fall of rain, almost as invariably brings with it some degree of temporary relief.

Strong light, as well as great heat, induces or aggravates the symptoms,* although the ozone theory advanced by Dr. Phœbus appears to me an insufficient explanation of this circumstance.

* In the majority of cases of Hay-fever, the patients experience a decided sense of relief when sitting in a partially darkened room. One gentleman who came under my treatment, told me that he preferred his cellar to any room in his house during the months of June and July, and that he often sat there for hours together during the middle of the day, so as to escape from the solar heat and light.

Many persons liable to this affection are unable to remain for any length of time in a room strongly lighted with gas at night, such as a dining-room ball-room, or theatre. The ozone theory would not apply to these cases; but it will be readily understood how the conjoined effects of strong light, excessive heat, and the diffusion of dust through the room, would give rise to the symptoms in persons predisposed to them.

Closely connected as Hay-fever is with excessive susceptibility of the nervous system, I should feel rather disposed to consider the influence of strong light in the development of the symptoms of this disorder as dependent upon the intimate connection which exists between the branches of the ophthalmic division of the fifth pair of cranial nerves. These branches, viz., the lachrymal, the frontal, and nasal, are distributed to the eye, the lachrymal gland, the mucous membrane of the nose and eyelids, the integument of the nose and forehead, and the muscles above the upper half of the circumference of the orbit.

Any irritation to the lachrymal nerve will cause sneezing and coryza, owing to the connection between this nerve and the nasal nerve; and, on the other hand, any irritation to the nasal nerve, such as, for instance, the application of strong snuff or some other stimulus to the mucous membrane lining the

nose, will produce lachrymation and watery running at the eyes.

In like manner, it does not seem at all improbable that powerful solar light may cause lachrymation, coryza, sneezing, and frontal pain (all of which are prominent symptoms of summer-catarrh), through the sympathetic irritation which it produces in the various branches of the ophthalmic nerve.

The disorder is made worse by any causes which weaken the patient, or which disturb the nervous system; and, like common catarrh, it is augmented by sudden changes, especially increase of temperature, windy or stormy weather, and other variable conditions of the atmosphere.

In cases of summer-catarrh arising in inland situations, the quarter from which the wind blows bears some relation to the intensity of the symptoms. When the wind blows from the south, south-west and west, without rain, the patient's sufferings are, as a rule, augmented; and when it veers round to an opposite quarter, north or north-east for example, an agreeable diminution of the severity of the symptoms is experienced. This peculiarity is, doubtless, connected with the fact that winds, blowing from a southerly or westerly direction, are accompanied by more heat than those blowing from the north or east quarters.

The diagnosis of Hay-fever is generally unattended

with much difficulty, if the phenomena connected with it are properly noted.

The affections for which it may be mistaken are ordinary catarrh, catarrhal ophthalmia, bronchitis, asthma, influenza, vesicular emphysema of the lungs, and (when the pain over the eyes is very severe) frontal neuralgia.

The periodicity of the attacks of Hay-fever or summer-catarrh, which returns every year about the same time with almost unfailing certainty (in many persons not varying more than one or two weeks, sometimes scarcely a day, in the date of its annual recurrence, for several years in succession), will serve to distinguish it from most of the disorders enumerated in the preceding paragraph; and the progress and peculiar character of the symptoms, the almost incessant sneezing, coryza, and watery running from the eyes, conjoined with the absence of any special signs of any chest affections on auscultation or percussion of the chest, will satisfactorily confirm the diagnosis.

As regards the prognosis, it is usually favourable as far as any actual danger to life is concerned; and after the annual attack has quite passed off, the patient gradually regains his strength, and is in as good a state of health as he enjoyed previously. Still, though it does not often shorten life in one sense, except when asthma, chronic bronchitis, or

some other pectoral affection supervenes upon it, it certainly does in another—viz.: by diminishing the enjoyment of life, for the majority of sufferers lose several weeks, and often months every summer, through their being both physically and mentally prostrated by it, and prevented from following their usual pursuits.

One point in connection with Hay-fever should not be lost sight of, viz.: the frequency with which it becomes complicated with chronic asthma, or bronchitis, as the age of the patient progresses. In fact, it may be predicted as almost certain that a person who suffers from Hay-fever in the middle period of life, will, when he gets older, suffer from asthma, or chronic bronchitis.

According to most writers on the subject, including Bostock and Phœbus, when Hay-fever has once shown itself in any individual, it will continue to recur yearly during the whole of the patient's lifetime. To some extent, this is contrary to the results of my own observation of the disorder.

Indeed, I have noticed that it occasionally presents a tendency to disappear, or, at any rate, to diminish in severity, as the patient advances towards old age; but although there is sometimes an evident tendency to the diminution or disappearance of the summer-catarrh, the patient generally escapes one disorder only to fall into another, being

almost always liable to chronic asthma, or bronchitis.

With respect to the effects of medical treatment, about which nearly every writer on Hay-fever appears doubtful, I certainly see no reason for thinking that the symptoms may not be generally very much mitigated. I believe, also, that except in cases where the predisposition is strongly marked, or where the affection has been allowed to get too complete a hold upon the system, careful avoidance of the exciting causes, and judicious treatment will succeed in eradicating the disorder; or, certainly, that if the affection cannot be eradicated, we may at all events reduce the attacks to a minimum, whether as regards their severity or their duration. Every summer brings further conclusive proofs of the amenability of this affection to treatment, even in cases which have lasted for many years, and where the sufferers had long considered themselves as hopelessly incurable.

The variable etiology and pathology of Hay-fever have led to very wide diversities in the plans of treatment recommended by different writers.

The fact is, that in treating Hay-fever, as in treating other affections, it is worse than useless to attempt to find a specific remedy for all cases, or to treat all by the same medicines.

The symptoms vary considerably in different

individuals; and the best method of obtaining a cure or relief, is that which is directed to meet or subdue the different symptoms as they arise.

The treatment may be divided into two parts, viz., the prophylactic, with a view to the prevention of the disorder, and the curative, or palliative, to be adopted when the affection has shown itself.

The former will consist chiefly in the avoidance of the exciting causes of the disorder, such as the aroma of ripe grass, or newly-made hay, and of strong-smelling flowers, or the inhalation of the particles of various irritating substances, as ipecacuanha, &c. ; protection from the heat of the sun, especially about mid-day, and only a moderate amount of out-door exercise, which should be taken either early in the day or towards the evening; unstimulating diet; attention to the functions of the bowels, skin, &c. Removal to the sea-side is sometimes found beneficial, but cannot always be relied upon. The cases in which a visit to the sea-side will most likely prove advantageous are those in which the febrile or asthmatic symptoms predominate; the benefit in the former class resulting from the cool, invigorating character of the marine breezes, and in the latter from the pure state of the atmosphere.

It is commonly supposed that a removal to the sea-side is sufficient to effect a cure, or to produce

relief in most cases of summer-catarrh ; but this idea is shown by experience to be not unfrequently fallacious. I have known persons, who have gone to the sea-side with the hope of obtaining a cessation of their symptoms, get so much worse as to be obliged to return to their homes ; nor need this be a matter of surprise when the heat, glare, and dust of many marine resorts, are taken into consideration.

When the affection has actually made its appearance, we must direct our attention, as has already been observed, to the different symptoms as they arise.

Hot fomentations, with either water or decoction of poppies, should be used to relieve the swelling, pain, and irritation of the conjunctivæ and eyelids.

Glycerine or cold cream should be applied occasionally to the interior of the nostrils by means of a camel's hair brush or a feather.

A medical gentleman who was under my treatment last year informed me that he experienced a sensation of relief from painting the inside of the nostrils with a strong solution of nitrate of silver ; but, as a rule, emollient applications are the best. I give the preference to pure glycerine, that known as Price's, and manufactured at the Belmont Works, being the only kind which can be depended upon *as always pure*. The other varieties of glycerine are

either adulterated or imperfectly purified, and contain oxide of lead, fatty acids, lime, chlorides, and other impurities, so that their application to a sensitive mucous surface is attended by more or less irritation.

The frequent inhalation of the steam of hot water (either simple or medicated), and of different sedatives, in the form of atomized fluid, or spray, will be found valuable in relieving the unpleasant, tickling sensation felt in the mucous membrane of the nose and other air-passages.

At the periods when the earlier editions of this work were published, I had only a limited experience of the value of Inhalation as a remedial agent. From more recent and extensive trials of this mode of treatment, I have formed a high opinion of its curative effects, not only in the catarrhal and asthmatic forms of hay-fever, but in many other affections of the throat and lungs.

Until a few years since, the only remedies which could be administered by inhalation were such as existed in the gaseous condition, or could be volatilized by heat into vapour, so as to allow of their being drawn into the lungs during the act of respiration. The apparatus invented by Sales Girons in 1858, and since modified and improved by Siegle, of Stuttgart, Lewin, and others, has opened up a most extensive field for the treatment of diseases of the respiratory organs by inhalation, which, owing

to the fact that the remedies are brought into direct contact with the affected parts, possesses a advantage over the ordinary method of administering medicines through the stomach. Every medicinal agent which is soluble in water, can, by this apparatus, be minutely subdivided, and afterwards inhaled by the patient, in the form of very fine spray.*

The following remedies can be used with advantage by inhalation, in many cases of the affection, of which I am writing, viz.: liquor arsenicalis, one to ten minims in an ounce of pure water; extract of Cannabis Indica, half-a-grain to two grains in each ounce of water; extract of conium, in the same proportion as the preceding remedy; tincture of opium, five to twenty minims; bromide of potassium, two to ten grains; and sulphate of zinc, two to fifteen grains dissolved in an ounce of water.

The Inhaler of Dr. Siegle in which the various remedies are vaporized with the steam of hot water, possesses the following general advantages:—
1. That the steam inhaled has a soothing and beneficial effect; 2. That the deep, prolonged, and steady inspirations taken by the patient, while inhaling, promote complete expansion of the chest,

* Those who are interested in the subject of Inhalation, will find further information concerning it in my work on "*The Treatment of Disorders of the Throat and Lungs by Inhalation.*" Second Edition, 1865.

and help to bring the patient into a habit of more completely filling the lungs during each act of inspiration; and 3. That by applying remedies in this way, we may avoid the disturbance of the digestive functions which often occurs when medicines are taken into the stomach in the usual way by delicate persons.

Small pieces of ice, dissolved at frequent intervals in the patient's mouth, often avail more than anything else in obviating the heat, dryness, and tickling sensation felt in the roof of the mouth, the palate, and fauces.*

The following remedies are amongst the best for internal administration.

Lobelia, in full doses of the tincture three or four times a day (as recommended by the late Mr. Gordon); the preparations of opium, especially the *Tinctura Camphoræ Composita*; and the other principal sedatives and antispasmodics. Aconite is one of the most useful remedies of this class, if given in suitable cases, the catarrho-febrile. The tincture

* In a remarkable case which came under my care in the summer of 1852, the patient's sufferings were unusually severe, and the feeling of heat and constriction of the throat and chest, was such as to make her dread imminent suffocation.

This local complication, after resisting several remedies tried by other medical men and myself yielded to the occasional sucking of small lumps of ice, and the inhalation of the steam of hot water, by means of an inhaler.

is the most convenient and certain preparation of this drug, but great care must be exercised in its administration, as it has a tendency to accumulate in the system, like digitalis and some other powerful medicines.

I may here remark that tobacco-smoking, as in ordinary asthma, sometimes effects wonders in diminishing the severity of the paroxysms; as does also the smoking of the little medicated cigarettes, known as the "*cigares de joie*."

Bromide of potassium, or of ammonium, in five or ten grains, or even larger doses, according to the age of the patient, and the intensity of the symptoms, given in infusion of quassia or gentian, will prove efficacious in cases where the faucial or bronchial irritability is excessive

The bitter vegetable tonics, particularly quinine, nux vomica, quassia, and gentian, or the preparations of iron, zinc, and arsenic, and other mineral tonics, may be administered when the patient's constitution requires invigorating treatment.

Amongst the mineral tonics, I generally give the preference to zinc or arsenic. The preparations of iron, recommended by some writers, are apt to produce disturbance of the digestive functions without exercising an adequate influence over the affection.

The various secretory and excretory functions *should be regulated* by appropriate medicines, and

in all cases it will be found judicious to prescribe an occasional saline, cooling aperient, such as the sulphate or carbonate of magnesia.

At the same time the very powerful and lowering depletives recommended by some writers must be carefully shunned, and it should be borne in mind by the practitioner that, in a large majority of cases of summer-catarrh, the patient's strength is so much reduced, that diffusible stimulants, of which chloric ether is the most certain in its action, are more generally indicated than active purgatives, diuretics, and similar exhausting remedies.

When the eyes are affected, soothing collyria, or warm water should be frequently applied; and green or blue glass spectacles, or a shade, should be worn whenever the patient goes out of doors during the day-time.

The diet should consist of nutritious, easily digested food, with pale ale, sherry, or claret at lunch and dinner. All vegetables, excepting potatoes or salads, should be avoided, as well as hot tea, for which coffee, cocoa, or chocolate may be substituted.

Moderate exercise ought to be taken daily in the open air in a shady, cool place, at as great a distance as possible from the exciting causes of the affection. This should be either gentle walking, or riding in a carriage, on roads free from dust. Riding on horseback is sometimes prejudicial to

recovery, and I have known several instances in which very moderate exercise on horseback either produced an attack of the affection, or rendered the symptoms which were previously present, much more severe.

THE END.

WORKS BY ABBOTTS SMITH, M.D., F.L.S.

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v.

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